

## McTaggart's A and B Series and the Time Epistemologies of St. Augustine, Nāgārjuna, and Stephen Hawking

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**Abstract:** Philosopher John M. E. McTaggart (1866–1925) argued that there are two ways of understanding time: the A and the B series. Under the “tensed” A series, events have the aspects of past, present, and future. Under the “untensed” B series, events are sequential, and time does not have an abiding reality. In this essay, I use McTaggart’s A and B series to explore the time epistemologies of St. Augustine, Nāgārjuna, and Stephen Hawking. I argue that St. Augustine’s view of time corresponds to McTaggart’s A series, Nāgārjuna’s view of time to a modified version of McTaggart’s B series, and Hawking’s view of time to a modified version of McTaggart’s A series. The crux of the difference is the epistemological anthropology of each thinker. The only one who accepts the reality of time as McTaggart espoused in his A series is St. Augustine, due to the latter’s understanding of the human person as a knowing subject striving toward timelessness in Heaven with God.

**Keywords:** human soul, *śūnyatā*, *madhyamaka*, *pratīyasamutpāda*

In 1908, philosopher John M. E. McTaggart (1866–1925) presented an argument entailing two ways of understanding time: the A and the B series.<sup>1</sup> Under the “tensed” A series, McTaggart argued, events have the property of past, present, or future, such that an event still unrealized will slide toward the now, occur, and then slide away into the already-happened.<sup>2</sup>

<sup>1</sup> J. Ellis McTaggart, “The Unreality of Time,” in *Mind*, 17:68 (1908), 458.

<sup>2</sup> See Ryan Nefdt, “On the Plurality of Times: Disunified Time and the A-Series,” in *South African Journal of Philosophy*, 32:3 (2013), 249-260, <<https://doi.org/10.1080/02580136.2013.837654>>. On tense in McTaggart’s time philosophy, see John P. Burgess, “Logic and Time,” in *The Journal of Symbolic Logic*, 44:4 (December 1979), 567. <<https://doi.org/10.2307/2273296>>; Simon Prosser,

Temporality is, therefore, a feature of time, and events change temporality—not yet, underway, finished—as time passes. Under the B series, by contrast, McTaggart argued, there is no temporality to events, only sequence. One thing happens, another thing happens, and a third thing happens, and the order of these three events does not imply coming into being or fading from view. Things happen, under the B series, not as future, present, and past, but as, simply, first, second, third, and so forth. Events are always present to observers no matter where those events or observers happen to lie along the sliding scale of sequence. McTaggart’s ultimate goal in arguing this way was to dispute the reality of A-series time, indeed to assert that time did not exist. The A series, McTaggart thought, was both ineluctable in discussions of time, and also unfounded; therefore, time was an illusion.<sup>3</sup>

Ironically, perhaps, McTaggart was neither the first nor the last person to think about time. In this paper, I will very briefly consider three thinkers from three very different thought traditions and attempt to answer whether their views of time comport with McTaggart’s A series, B series, or some modified version of those. I will first consider the writings on time of St. Augustine (354–430), who represents a particular Christian view of time. I will next consider the time-philosophy, more specifically the doctrine of dependent origination, advanced by Nāgārjuna (ca. 150–250), an Indian philosopher whose doctrine of *śūnyatā* (emptiness) and accommodationist position of *madhyamaka* (the middle way) exerted great influence on the Buddhist tradition, especially on Tibetan philosopher Tsongkhapa (ca. 1357–1419) and Japanese Zen philosopher Dōgen (1200–1253).<sup>4</sup> Lastly, I will consider the secular-scientific philosopher Stephen Hawking (1942–2018), whose position on Einsteinian space-time and the origin and fate of the entropic universe may stand as representative of much of current Western discourse on time.

I find that St. Augustine’s view of time corresponds neatly with McTaggart’s A series, Nāgārjuna’s view of time with a modified version of

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“A New Problem for the A-Theory of Time,” in *The Philosophical Quarterly*, 50:201 (October 2000), 494–498.

<sup>3</sup> Denis Corish, “McTaggart’s Argument,” in *Philosophy*, 80:311 (January 2005), 77–99, <<https://doi.org/10.1017/S0031819105000057>>. Corish is unimpressed with McTaggart’s ideas about time and declares that McTaggart’s A-series/B-series distinction “fails from the beginning.” *Ibid.*, 77. For other critiques of McTaggart, see Louis O. Mink, “Time, McTaggart and Pickwickian Language,” in *The Philosophical Quarterly*, 10:40 (July 1960), 252–263, <<https://doi.org/10.2307/2216939>>; Emily Thomas, “V—Time and Subtle Pictures in the History of Philosophy,” in *Proceedings of the Aristotelian Society*, 120:2 (2020).

<sup>4</sup> On *śūnyatā*, see Saigusa Mitsuyoshi, *Saigusa Mitsuyoshi chosakushū dai go kan Ryūju* [Collected Works of Mitsuyoshi Saigusha, vol. 5, Nāgārjuna] (Kyoto: Hozokan, 2004), 82–98. On dependent origination (*engi*), see Ishitobi Michiko, *Budda to Ryūju no ronrigaku* [Logic of Buddha and Nāgārjuna] (Tokyo: Samgha, 2007), 233–244.

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McTaggart's B series, and Hawking's view of time with a modified version of McTaggart's A series. The differences hinge on how each thinker understands human beings as knowing subjects.<sup>5</sup> Of the three—Augustine, Nāgārjuna, and Hawking—the only one who accepts the reality of time as McTaggart espoused in his A series is St. Augustine, and this is due to the latter's understanding of the human person as a knowing subject striving toward timelessness in Heaven with God.

### McTaggart's Two (or Three) Time Series

McTaggart's distinction between the A series and the B series of time was predicated upon McTaggart's belief, apparently mystically derived, in time's unreality.<sup>6</sup> In his argument about time, McTaggart wanted to show that the flow of time is illusory by proving that "the structure of the impermanent, shifting designator within the dyadic precedes-succeeds is exactly the same for both" A-series (past-present-future) and B-series (earlier-later) interpretations of time.<sup>7</sup> While events, according to McTaggart, occur and are arrayed in a sequence, there is no "thenness" or "nowness" to events. He sees temporality as imbuing a kind of aspect to events that, in McTaggart's view (heavily influenced by both Hegel and Kant), would be incompatible with the nature of change. As Kris McDaniel writes, "McTaggart argues for [the non-existence of the A series] by attempting to demonstrate that the existence of the A-series would generate a contradiction. According to McTaggart, *being present, being past, and being future* are incompatible determinations. But everything in time must have each of them."<sup>8</sup> Therefore, for McTaggart, sequence, and not tense (temporality), is what there is to what we call "time." Time itself, however, is an illusion.

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<sup>5</sup> On the contrast between McTaggart and Gottfried Wilhelm Leibniz on the self, see Hilda D. Oakeley, "Time and the Self in McTaggart's System," in *Mind*, 39:154 (1930), 175-176. The "two aspects" into which McTaggart has "analysed time," and the "contradiction" between the two aspects which he "holds [...] to be final," are resolved in the human knower. See Hugh A. Reyburn, "Idealism and the Reality of Time," in *Mind*, 22:88 (1913), 500, <<https://doi.org/10.1093/MIND/XXII.10.493>>. See also James B. Reichmann, S. J., *Philosophy of the Human Person* (Chicago: Loyola Press, 1985), 79.

<sup>6</sup> Kris McDaniel, "John M. E. McTaggart," in *Stanford Encyclopedia of Philosophy* (2020), <<https://plato.stanford.edu/entries/mctaggart/>>; Wouter Kusters, "Philosophy and Madness: Radical Turns in the Natural Attitude to Life," in *Philosophy, Psychiatry, and Psychology*, 23:2 (June 2016), 135, <<https://doi.org/10.1353/ppp.2016.0012>>; Robert Leet Patterson, "McTaggart's Contribution to the Philosophy of Religion," in *Philosophy*, 6:23 (July 1931), 325-326, 328-329, <<https://doi.org/10.1017/S0031819100032204>>.

<sup>7</sup> Denis Corish, "Time Reconsidered," in *Philosophy*, 81:315 (January 2006), 81-82 <<https://doi.org/10.1017/S0031819106000052>>.

<sup>8</sup> McDaniel, "John M. E. McTaggart." Emphases in original.

It appears that McTaggart's "Infinite Partition doctrine" (contra Bertrand Russell) was at work in leading him to eschew any real temporality to events, as temporality would, at least temporarily, compose an event as a whole, which it seems McTaggart wished to avoid.<sup>9</sup> There was no end to how time could parse wholes into nows, and so, in part to avoid an infinite regress, McTaggart dispensed with time altogether. Specifically, on this question of the now, Russell insisted on defining "now" by referring to something immediately present, "in terms of this," by which Russell meant "the object of attention."<sup>10</sup> The now was the *this* at this precise moment, here.

The larger backdrop to this disagreement is the nature of change, which Russell thought occurred in objects in time. As Russell argues in his 1903 magnum opus *Principles of Mathematics*:

The concept of motion is logically subsequent to that of occupying a place at a time, and also to that of change. Motion is the occupation, by one entity, of a continuous series of places at a continuous series of times. Change is the difference, in respect of truth or falsehood, between a proposition concerning an entity and a time T and a proposition concerning the same entity and another time T', provided that the two propositions differ only by the fact that T occurs in the one where T' occurs in the other. Change is continuous when the propositions of the above kind form a continuous series correlated with a continuous series of moments. Change thus always involves (1) a fixed entity, (2) a three-cornered relation between this entity, another entity, and some but not all, of the moments of time. This is its bare minimum. Mere existence at some but not all moments constitutes change on this definition.<sup>11</sup>

McTaggart however, of course, argued for the unreality of time, and for the purely sequential – with no temporal fixity – nature of states or events.

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<sup>9</sup> N. M. L. Nathan, "McTaggart's Immaterialism," in *The Philosophical Quarterly*, 41:165 (October 1991), 443, <<https://doi.org/10.2307/2220079>>. On Russell's "critique of neo-Hegelian Idealism," particularly that of McTaggart (and Francis Herbert Bradley), see Graham Stevens, "Russell's Repsychologising of the Proposition," in *Synthese*, 151 (2006), 101.

<sup>10</sup> Bertrand Russell, "On the Experience of Time," in *The Monist*, 25:2 (April 1915). Quoted in Ernest Sosa, "The Status of Becoming: What Is Happening Now?" *The Journal of Philosophy*, 76:1 (January 1979), 31.

<sup>11</sup> Bertrand Russell, *Principles of Mathematics* (Cambridge, 2903; Oxon, UK: Routledge, 2010), 476–477. Reference to the 2010 edition.

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On McTaggart's understanding, there could be no change as Russell described. If something was true of some object or subject somewhere along the B series, that truth does not change. Taking the unreality of time (and change) further, and in tribute to his Hegelian (some would say Kantian) proclivities, McTaggart later rendered his A series-B series dichotomy as a dialectic leading to a Hegelian synthesis which he called "C series time." Contemporary philosopher John Earman notes of the C series:

McTaggart, inspired by his admired Hegel, took the world of physical events to be arranged in an intrinsic, observer[-]independent C-series. But according to McTaggart this C-series is non-temporal, and it is by projecting a transient now onto this C-series that McTaggart thought that we create the B-series and the illusion of change.<sup>12</sup>

However, despite this later modification, McTaggart continued to maintain the unreality of time (the C series is, in fact, a product of McTaggart's ongoing denial of time's reality), and likewise held to the "infinite partition" of events without futurity, presence, or pastness.<sup>13</sup>

### St. Augustine's Philosophy of Time

In sharp contrast to McTaggart, St. Augustine of Hippo understood time to be real in that events really do change from being yet to be, in progress, and then done and in the past. As a Christian, St. Augustine saw time as God's creation. Since God created time, He therefore necessarily transcended it.<sup>14</sup> God works in history but is also outside of it, St. Augustine thought. God is known in the world through self-revelation but is in no sense

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<sup>12</sup> John Earman, "Thoroughly Modern McTaggart: Or, What McTaggart Would Have Said If He Had Read the General Theory of Relativity," in *Philosophers' Imprint*, 2:3 (2002), 21.

<sup>13</sup> See also Emiliano Boccardi, "Turning the Tables on McTaggart," in *Philosophy*, 93:3 (2018), 395-410, <<https://doi.org/10.1017/S0031819118000141>>; Matt Farr, "On A- and B-Theoretic Elements of Branching Spacetimes," in *Synthese*, 188:1 (2012), 85-116 <<https://doi.org/10.1007/s11229-011-0046-y>>. "'C-series' was McTaggart's term for a timeless, logically ordered series." Jonathan Tallant, "What Is It to 'B' a Relation?" in *Synthese*, 162:1 (2008), 118, footnote 2.

<sup>14</sup> L. Nathan Oaklander, "The 'Timelessness' of Time," in *Philosophy and Phenomenological Research*, 38:2 (1977), 203. See also Liliann Manning, Daniel Cassel, and Jean-Christophe Cassel, "St. Augustine's Reflections on Memory and Time and the Current Concept of Subjective Time in Mental Time Travel," in *Behavioral Sciences*, 3:2 (2013), 235, <<https://doi.org/10.3390/bs3020232>>.

bound by this world or dependent upon it.<sup>15</sup> As a philosopher of religion, Sean Hannan writes, St. Augustine's "approach to time [...] is governed not by intensity or intension, nor even by extension, but by a dis-tension that disrupts the present from within."<sup>16</sup> According to Hannan, St. Augustine also realizes that "the present has no span" — a realization which McTaggart might call "infinite partition" — but for Augustine "such a destruction of the [present] instant suggests that our incomplete concept of the present might just be a symptom of our unwarranted projection of tense logic [...] onto time, which is not inherently broken up into tenses."<sup>17</sup> In other words, St. Augustine, like McTaggart, understands the basic non-reality of the present.<sup>18</sup> However, whereas McTaggart argues from this refragability of "the instant" to the unreality of time, St. Augustine uses time's mysterious presence-and-non-presence to meditate on the greater reality, God, Who created it.<sup>19</sup> Time is therefore real, but not absolute.<sup>20</sup>

For St. Augustine, this transcendent nature of time's Author and the Trinitarian dynamic which moves through human history are fundamentally connected with the nature of the human person, who knows God somehow through time and who also looks forward to eternity with God in Heaven, outside of time.<sup>21</sup> Wolfgang Achtner, contrasting St. Augustine with Neo-Platonic philosopher Plotinus (205–270), notes that "St. Augustine can be seen as the first one to understand time as a feature of consciousness, measured by the strength of the human soul or mind. He calls this measure of the soul's strength to maintain time *distentio animi*."<sup>22</sup> For St. Augustine, Achtner notes, the past in the soul becomes memory (*praesens de praeteritis memoria*), the present attention (*praesens de praesentibus contuitus*), and the future

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<sup>15</sup> Olga I. Chashchina and Zurab K. Silagadze, "Expanding Space, Quasars and St. Augustine's Fireworks," in *Universe*, 1:3 (2015), 336, <<https://doi.org/10.3390/universe1030307>>. See also Eugene R. Schlesinger, "Trinity, Incarnation and Time: A Restatement of the Doctrine of God in Conversation with Robert Jenson," in *Scottish Journal of Theology*, 69:2 (2016), 189–203.

<sup>16</sup> Sean Hannan, "A New Realist Philosophy of Time and Its Augustinian or Post-Phenomenological Critique" (unpublished manuscript, February 2015), <<https://voices.uchicago.edu/philofreligions/2015/02/11/259/>>, 8.

<sup>17</sup> St. Augustine, *Confessions*, Book XI, xv, 20; xi, 13; and xxi, 23. Quoted in Sean Hannan, "A New Realist Philosophy," 9.

<sup>18</sup> Richard M. Gale, "Has the Present Any Duration?" in *Nous*, 5:1 (1971), 40-41 <<https://doi.org/10.2307/2214450>>.

<sup>19</sup> "What, then, is time? If no one asks me, I know; if I try to explain it to one who asks, I do not know." St. Augustine, *Confessions*, Book XI, quoted in George Stuart Fullerton, "The Doctrine of Space and Time: IV. Of Time," in *The Philosophical Review*, 10:5 (September 1901), 488.

<sup>20</sup> Thomas Nordlund, "The Physics of Augustine: The Matter of Time, Change and an Unchanging God," in *Religions*, 6:1 (2015), 221-244, <<https://doi.org/10.3390/rel6010221>>.

<sup>21</sup> Daniele Piccioni and Patrizia Riganti, "Time, Atemporality and the Trinitarian Nature of God in Plato's Philosophical Heritage," in *Agathos*, 9:1 (2018), 7-20.

<sup>22</sup> Wolfgang Achtner, "Time, Eternity, and Trinity," in *Neue Zeitschrift für Systematische Theologie und Religionsphilosophie*, 51:3 (2009), 269.

expectation (*praesens de futuris expectation*).<sup>23</sup> St. Augustine's soul strives in the attentive now upwards to God, continually purified in memory and buoyed by joyful hope.<sup>24</sup>

Paul Ricoeur explains this elegantly in chapter one of the first volume of his *Time and Narrative* trilogy using the language of aporias. St. Augustine accomplishes "the solution of the aporia of the being and nonbeing of time," Ricoeur writes, "through the notion of a threefold present."<sup>25</sup> Drawing on the example of a psalm known by heart and then recited from memory, St. Augustine, Ricoeur argues, expounds his "theme [of] the dialectic of expectation, memory, and attention, each considered [...] in interaction with one another."<sup>26</sup> This unfolding, this aporia of the mind moving hopefully into an unknown future (*distentio animi*), St. Augustine sets within the eternity of God.<sup>27</sup> The knower of time is ultimately the knower in time and outside of time, as the one who directs his will toward the Everlasting will be able to commune with the transcendent God Who created both the human person and the time in which he temporally, temporarily exists.<sup>28</sup>

Both Hannan and Achtner, as well as Ricoeur, cite the famous Book XI of St. Augustine's *Confessions*. There, St. Augustine discourses on the nature of time in the context of his own spiritual progress from inattention—mired in sin and chained to the eternal present of sensuality and disregard for eternity—to expectation, a turning towards God which helps clarify the past and provides direction for the present. In Book XI, St. Augustine writes that time is not merely the motion of created things—not, as "a learned man" once lectured, "that the motions of the sun, moon, and stars, were the very true times"—but that "the mind lengthens out itself" to approach to God.<sup>29</sup> The measure of time is not merely the turnings of the planetary bodies. Time is a human medium for discovering God. In St. Augustine's understanding,

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<sup>23</sup> *Ibid.*, 270.

<sup>24</sup> Catherine Rau, "Theories of Time in Ancient Philosophy," in *The Philosophical Review*, 62:4 (October 1953), 521, <<https://doi.org/10.2307/2182458>>.

<sup>25</sup> Paul Ricoeur, *Time and Narrative*, vol. 1, trans. By Kathleen McLaughlin and David Pellauer (Chicago: University of Chicago Press, 1984), 12. See also Paul Ricoeur, *Time and Narrative*, vol. 3, trans. by Kathleen Blamey and David Pellauer (Chicago: University of Chicago Press, 1988), 12–22.

<sup>26</sup> Ricoeur, *Time and Narrative*, vol. 1, 20.

<sup>27</sup> *Ibid.*, 22–26.

<sup>28</sup> Achtner, "Time, Eternity, and Trinity," 270–271. See also Steven P. Marrone, "Review *Divine Illumination: The History and Future of Augustine's Theory of Knowledge*," in *Journal of the History of Philosophy*, 50:2 (2012), 101–102, <[https://doi.org/10.1111/j.1748-0922.2012.01603\\_6.x](https://doi.org/10.1111/j.1748-0922.2012.01603_6.x)>.

<sup>29</sup> Augustine of Hippo, *Confessions*, vol. II, trans. by William Watts (London: William Heineman, Ltd., 1912), 259.



time becomes a kind of workshop for the overcoming of temporality by the human soul.<sup>30</sup> He writes:

But because thy loving kindness is better than life itself, behold my life is a distraction, and thy right hand hath taken hold of me, even in my Lord the Son of Man, the Mediator betwixt thee that art but one, and us that are many, drawn many ways by many things; that by him I may apprehend him in whom I am also apprehended, [...] to forget what is behind: not distracted but attracted, stretching forth not to what shall be and pass away, but to those things which are before [...] for the garland of my heavenly calling. [...] But now are my years spent in mourning, and thou, my Comfort, O Lord, my Father, art Everlasting; but I fall into dissolution amid the changing times, whose order I am yet ignorant of.<sup>31</sup>

The present is then, for St. Augustine, very much a “now” in the A-series sense which McTaggart rejected. There is a change in creation, but it is a mystery rooted in God’s command of eternity, a tensed becoming whereby the Christian learns to turn to God and away from the passing world (the theme of St. Augustine’s *Confessions* overall).

The key here is time’s human perceiver. While St. Augustine posits an eventual eternity that would overwhelm the now—a “Comfort” in the “Everlasting” which would succor him in his present “mourning,” when he had “fall[en] into dissolution amid the changing times”—he accepts that the present, although elusive of the grasp of the mind, is nevertheless very real in that it harbors human suffering born of separation from the Creator of time itself.<sup>32</sup> From a certain standpoint, namely that of Heaven, St. Augustine might agree with McTaggart that time did not have ultimate reality. However, unlike McTaggart, St. Augustine thought that the human person was made to know in time, and that it was only by realizing the true nature of the soul within time that one was able to see clear of the A-series delimitations of temporality to timelessness over the horizon of the present.

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<sup>30</sup> For example, see Curtis M. Hutt, “Husserl: Perception and the Ideality of Time,” in *Philosophy Today*, 43:4 (Winter 1999), 371.

<sup>31</sup> Augustine of Hippo, *Confessions*, vol. II, 279–280.

<sup>32</sup> See also *De Trinitate*, Book V, Ch. 4: “A problem is discussed which is raised by those names that refer God to creation.” Augustine of Hippo, *De Trinitate* (New York: New City Press, 1991), 202–204.



### Nāgārjuna's Philosophy of Time

What might time seem like to one who is neither a latter-day Hegelian idealist like McTaggart nor an early Christian like St. Augustine? One good example of a non-Western view of time can be found in the work of Buddhist philosopher Nāgārjuna, who was concerned primarily with the nature of change and the reality or unreality of the passing world. Nāgārjuna's doctrine of *madhyamaka* (the middle way) was an attempt at a working compromise between total nihilism and enduring substance, a way of being in the world without what Nāgārjuna and other philosophers at the time called *svabhāva*, or self-sufficient existence manifested as essence. Nāgārjuna's philosophy of time is a function of his *madhyamaka* doctrine, and more specifically of the notion of dependent origination, *pratītyasamutpāda*, according to which the various phenomena, or dharmas, are connected to one another and arise and disperse only in concert with one another.<sup>33</sup> Nothing, in this view, is ultimately real, since everything is always dependent on everything else. The fundamental non-fundament of all is *śūnyatā*, emptiness.<sup>34</sup>

As a philosopher of religion, Tao Jiang writes, on Nāgārjuna's reading, "to say that something arises by depending on conditions is to say that it is empty. Because all existences are dependent on conditions, they are all empty."<sup>35</sup> A Chinese translation of Nāgārjuna's work on dependent origination puts it succinctly: "All dharmas do not move. They have no place to go to or to come from."<sup>36</sup> The epistemological consequences of this unmooring of events from any kind of temporality or even sequence are profound. Nāgārjuna's critics, during his lifetime and since, have raised many different objections to his worldview, not least that the emptiness he espouses does not seem capable of supporting even the illusion of reality that Nāgārjuna wants to maintain.<sup>37</sup> Because Nāgārjuna is virtually guaranteed to

<sup>33</sup> Jan Christoph Westerhoff, "Nāgārjuna," in *Stanford Encyclopedia of Philosophy* (2022), <<https://plato.stanford.edu/entries/nagarjuna/>>. See also Chris Bartley, "Pratītya-samutpāda," in *Encyclopedia of Asian Philosophy*, ed. by Oliver Leaman (London: Routledge, 2001), 434–435.

<sup>34</sup> Milton Scarborough, "In the Beginning: Hebrew God and Zen Nothingness," in *Buddhist-Christian Studies*, 20 (2000), 197.

<sup>35</sup> Tao Jiang, "Incommensurability of Two Conceptions of Reality Dependent Origination and Emptiness in Nāgārjuna's MMK," in *Philosophy East and West*, 64:1 (2014), 37, <<https://doi.org/10.1353/pew.2014.0004>>.

<sup>36</sup> *Shi'er men lun*, in *Taishō Shinshū Daizōkyō*, quoted in Man Li and Bart Dessein, "Aurelius Augustinus and Seng Zhao on 'Time': An Interpretation of the *Confessions* and the *Zhao Lun*," in *Philosophy East and West*, 65:1 (2015), 169, <<https://doi.org/10.1353/pew.2015.0019>>.

<sup>37</sup> See, e.g., William Edelglass, Review of *Emptiness Appraised: A Critical Study of Nāgārjuna's Philosophy*," in *Philosophy East and West*, 53:4 (2003), 602–605, <<https://doi.org/10.1353/pew.2003.0036>>.

need to appeal to a two-truths-ism in order to explain why the world appears to exist even if all dharmas are empty—and this is exactly what Nāgārjuna does, arguing that conventionally we act and think as though things are as they appear to be, while, at base, they are nothing at all—the disorientation which arises from Nāgārjuna’s epistemology will be most apparent in questions of time.<sup>38</sup>

Taking Nāgārjuna at his word, I see him as rejecting the reality of events and so I take his time-philosophy to be a modified form of McTaggart’s B series: there is sequence in some sense, but ultimately there is not even an “infinite partition” from which McTaggart retreats into pure sequentialism, but only emptiness, which, it would seem, could have no connection with time at all, whether real or imagined. Therefore, I understand Nāgārjuna’s view of time to be a modified version of McTaggart’s B series. Others have also noted this half-affinity between McTaggart and Nāgārjuna on the question of time. Philosopher Kristie Miller, for example, says that “in part,” Nāgārjuna’s “arguments [in the *Mūlamadhyamakakārikā*] bear some strong similarities to those we find offered by McTaggart many centuries later.”<sup>39</sup> Because of dependent origination, Miller finds, Nāgārjuna’s views on time lend themselves to a McTaggartian interpretation. She writes:

So either the present is *in* the past because it depends on the past, in which case it is non-existent since it is not *the present*, or the present is independent of the past, in which case it is also non-existent because to be the present is to stand in some relation to the past and that relation would be absent. Thus, past, present, and future cannot be intrinsic features of time, and truths about time cannot be ultimate truths.<sup>40</sup>

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<sup>38</sup> David L. Gardiner, “Kūkai: Esoteric and Exoteric Teaching,” in *Japanese Philosophy: A Sourcebook*, ed. by James W. Heisig, Thomas P. Kasulis, and John C. Maraldo (Honolulu: University of Hawai’i Press, 2011), 55–57. On two truths, see, e.g., Hideyo Ogawa, “Two Truths Theory: What Is Vyavahāra? Language as a Pointer to the Truth,” in *Journal of Indian Philosophy*, 47:4 (2019), 613–633, <<https://doi.org/10.1007/s10781-017-9314-6>>; and Dan Arnold, “The Sense Madhyamaka Makes as a Buddhist Position: Or, How a ‘Performativist Account of the Language of Self’ Makes Sense of ‘No-Self,’” in *Journal of Indian Philosophy*, 47:4 (2019), 697–726, <<https://doi.org/10.1007/s10781-019-09390-5>>

<sup>39</sup> Kristie Miller, “A Taxonomy of Views about Time in Buddhist and Western Philosophy,” in *Philosophy East and West*, 67:3 (2017), 773, <<https://doi.org/10.1353/pew.2017.0062>> (italics in the original). See also Yotsuya Kōdō, *Tsonkapa no chūgan shisō* (Tokyo: Daizō Shuppan, 2006), 14–21.

<sup>40</sup> *Ibid.*, 774.

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Dependent origination, therefore, undermines any A-series attempt to classify Nāgārjuna's time epistemology.

While this argument is sound in so far as it considers the dependent-origination side of Nāgārjuna's epistemology of time, Nāgārjuna's McTaggartism stands only when we join Nāgārjuna in suspending, for the time being, the ultimate unreality of all dharmas. As Miller also shows, Nāgārjuna's *śūnyatā* theses at least complicate the affinities that his conventional-truths arguments bear with McTaggart's B-series interpretation.<sup>41</sup> Miller's chain of reasoning leads her to conclude that:

Since arguably Nāgārjuna's arguments give us reason to reject the idea that pastness, presentness, and futurity are even, conventionally speaking, features of time, it seems most charitable to think that Nāgārjuna thus interpreted is best classified as some sort of middle-way or undemanding realist.<sup>42</sup>

Thus, Nāgārjuna does not find that there is any ultimate reality to time, or to anything at all, although he does not insist that we must stop using conventional truths as a working stand-in. Because of these complications, I categorize Nāgārjuna as a modified B series-ist on the McTaggartian scheme.<sup>43</sup>

### Stephen Hawking's Philosophy of Time

Finally, let us examine the time philosophy of a modern physicist and probably the most well-known theorist of time in the modern Anglophone world: the late Stephen Hawking, who occupied Isaac Newton's chair as Lucasian Professor of Mathematics at Cambridge. In 1988, Hawking published what would become a runaway bestseller, *A Brief History of Time*. Writing from a secularist, materialist, Big Bang perspective, Hawking propounded a theory of relativistic time, drawing not only on the space-time discoveries of Albert Einstein (1879–1955) and other quantum physicists but also on the consequences, as Hawking saw them, of the increasingly entropic nature of the universe.<sup>44</sup> However, despite Hawking's avowed atheism, his

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<sup>41</sup> *Ibid.*, 775–776.

<sup>42</sup> *Ibid.*, 776.

<sup>43</sup> Hara Yutaka, Ryūju ni okeru jikanron no ichi kōsatsu," [An inquiry into Nāgārjuna's theory of time] in *Indogaku Bukkyōgaku Kenkyū*, [Indology and Buddhism Research] 23:1 (1974), 158, <[https://doi.org/10.4259/ibk.69.2\\_895](https://doi.org/10.4259/ibk.69.2_895)>.

<sup>44</sup> See generally Alfred Driessen, "The Quest for Truth of Stephen Hawking," in *Scientia et Fides*, 9:1 (2021), 47–61, <<https://doi.org/10.12775/SetF.2021.002>> and Oliver L. Reiser, "The

centering of the human person in his philosophy of time puts him quite close to the Christian St. Augustine.

To put a finer point on it, the human person in Hawking's time philosophy is a kind of denatured Augustinian Christian, a psychologizing knower in a vast universe which has some God-like traits, but which is ultimately empty and void of personality. For Hawking, "time's arrow," as he put it, is a psychological artifact dependent on the second law of thermodynamics.<sup>45</sup> In an open universe, Hawking argues, the psychological arrow and the thermodynamic arrow need not align. But because they do and only because they do, there follows "the development of intelligent beings who can ask the question: why does disorder increase in the same direction of time as that in which the universe expands?"<sup>46</sup> One can sense in Hawking's empty cosmos the contours of St. Augustine's eternal God, shaping human knowing with love and not with thermodynamic laws. Despite calling into question the significance of any unified theory that does not take into account "the questions of why there should be a universe for the [theoretical] model to describe," Hawking is obliquely wondering where the knower fits into the scheme of what is known.<sup>47</sup> It is in this sense that Hawking is an anthropological temporalist. We know time because we are here to know time, a kind of neo-Augustinian argument married to insights on the expanding universe from Edwin Hubble.<sup>48</sup>

This anthropocentric cosmic tautology may also appear to rehearse Nāgārjuna's flirtations with B-series time, in which dependent origination frustrates the temporal charism on which A-series time relies. Hawking conceptually ties the time arrow to the directionality of the universe's entropy, which sets up a kind of Nāgārjunianism of interconnectedness and sequence. However, because Hawking's anthropocentric cosmology ineluctably smuggles in the human-person telos which St. Augustine articulated (although of course Hawking, as an atheist, would have denied this), I see his time-theory as a modified A series of the McTaggartian interpretation. The differences in epistemological anthropology between Hawking and Nāgārjuna make this clear. Hawking's knowing subject is not

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Problem of Time in Science and Philosophy," in *The Philosophical Review*, 35:3 (May 1926), 246–247.

<sup>45</sup> See Stephen Hawking, *A Brief History of Time: Updated and Expanded Tenth Anniversary Edition* (New York: Bantam Books, 1996), 149.

<sup>46</sup> *Ibid.*

<sup>47</sup> Edward Feser, *Aristotle's Revenge: The Metaphysical Foundations of Physical and Biological Science* (Neunkirchen-Seelscheid: Editiones Scholasticae, 2019), 173–174.

<sup>48</sup> See also Ernan McMullin, "Cosmic Purpose and the Contingency of Human Evolution," in *Theology Today*, 55:3 (1998), 411–413; Ron Highfield, "The Function of Divine Self-Limitation in Open Theism: Great Wall or Picket Fence?" in *Journal of the Evangelical Theological Society*, 45:2 (2002), 279–299.

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the no-self *anatman* of the Buddhist tradition, but the individual thinker along the Western-Newtonian line. This thinker knows objective reality in a subjective way, and so Hawking's philosophy of time is, with modifications, applicable to McTaggart's A series.

In fact, Hawking's anthropocentric cosmology is even more robust than he at first allows. Later in the same chapter where he first introduces his psychological-thermodynamic idea about the arrow of time, Hawking turns to what he calls a "weak anthropic principle" to bring in a third arrow: "the cosmological arrow, the direction of time in which the universe expands rather than contracts."<sup>49</sup> Because we are around to perceive time, and because we have not fallen into any black holes (this is an important stipulation on the Hawkingensian view), it must mean that time is somehow conditioned on the existence of the human person.<sup>50</sup> Again, while Hawking would deny any generative power to the human soul, denying as he did at least the soul's immortality if not its existence, it seems plain that his temporal anthropocentrism makes humans the center of time's noticeable passing. At the end of *A Brief History of Time*, Hawking mentions St. Augustine, approvingly (if slightly tongue-in-cheek), to agree with him that "time is a property only of the universe that God created. Presumably, he knew what he intended when he set it up!"<sup>51</sup>

To be sure, though, *A Brief History of Time* was not Hawking's only foray into time philosophy. For example, Hawking's views on time were famously critiqued by American Christian philosopher William Lane Craig. Craig is especially interested in Hawking's "imaginary time," which Hawking used to explain the nature of space-time (when "the temporal dimension [was] indistinguishable from the spatial dimensions") "up to the Planck time,  $10^{-43}$  sec after the Big Bang."<sup>52</sup> One of Hawking's motivations in conjuring up this "imaginary time" business, Craig avers, is to "avert the need for a Creator."<sup>53</sup> Indeed, Quentin Smith, who shares Hawking's anti-Creatorism, adopts an eminently Nāgārjunian perspective when he writes: "The fact of the matter is that the most reasonable belief is that we came from nothing, by nothing and for nothing," and that, "We should acknowledge our foundation in nothingness and feel awe at the marvelous fact that we have a chance to participate briefly in this incredible sunburst that interrupts

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<sup>49</sup> Hawking, *Brief History of Time*, 156.

<sup>50</sup> See generally Richard A. Muller, *Now: The Physics of Time* (New York: W.W. Norton & Company, 2016), 183–184.

<sup>51</sup> Hawking, *Brief History of Time*, 183.

<sup>52</sup> William L. Craig, "Theism and the Origin of the Universe," in *Erkenntnis*, 48:1 (January 1998), 47, <<https://doi.org/10.1023/A:1005360931186>>.

<sup>53</sup> *Ibid.*

without reason the reign of non-being.”<sup>54</sup> This is the *śūnyatā* of all dharmas translated fluently into late twentieth-century scientism, and Hawking has made similar statements elsewhere which essentially affirm Smith’s views.<sup>55</sup> And yet, Hawking maintained the sheer physicalism of the universe. He, therefore, denied only a Creator, not a creation. Moreover, Hawking places in the epistemological center of the physical universe the human knower, through whose mind flies the arrow of time. I understand him as having espoused a modified A series on the McTaggart interpretation.

## Conclusion

McTaggart’s short 1908 thesis on the nature of time as divisible into an A series and a B series has proven to be one of the seminal texts of the 20th and 21st centuries. McTaggart’s insights, Hegelian-Kantian in nature and rooted in early 20th-century debates on the nature of change and the role of the human knower in understanding the evolving universe, help categorize and further understand a wide range of other ideas, from other places and centuries, on time.

In this essay, and in the context of McTaggart’s A series/B series time schematic, I have considered the time-philosophies of St. Augustine, Nāgārjuna, and Stephen Hawking, finding that Nāgārjuna espoused a modified B-series approach to time, Hawking a modified A-series approach, and St. Augustine, with allowances for God’s ultimate mastery of time, an approach very like McTaggart’s A series. These categorizations turn on the affinity of each thinker’s respective conceptions of time with either of McTaggart’s two posited time series (A or B), but the most fundamental question is the role of the human knower within time, the epistemological anthropology which each thinker espouses as part of his time philosophy. In the end, the key to whether a thinker adopts some version of the A series or the B series is how that thinker understands the human person as a knowing

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<sup>54</sup> William L. Craig and Quentin Smith, *Theism, Atheism, and Big Bang Cosmology* (Oxford: Clarendon Press, 1993), 135, cited in William L. Craig, “Theism and the Origin of the Universe,” 50. For a critique of Craig’s use of the *kalam* argument which Craig deploys against Smith and other atheist materialists, see also Landon Hedrick, “Heartbreak at Hilbert’s Hotel,” in *Religious Studies*, 50:1 (2014), 27–46 <<https://doi.org/10.1017/S0034412513000140>>.

<sup>55</sup> See, e.g., “It is not necessary to invoke God to light the blue touch paper and set the universe going.” Stephen Hawking and Leonard Mlodinow, *The Grand Design* (New York: Bantam, 2010), 180, cited in Wojciech P. Grygiel, “Multiverse, M-theory, and God the Creator,” in *International Philosophical Quarterly*, 53:1 (March 2013), 35, note 38 <<https://doi.org/10.5840/ipq20135313>>. See also Javier Sánchez-Cañizares, “Whose Design? Physical, Philosophical and Theological Questions Regarding Hawking and Mlodinow’s Grand Design,” in *Scientia et Fides*, 2:1 (2014).



subject, and indeed as a principle of knowing by the light of the soul's striving in time toward timelessness in Heaven with God.

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## References

- Achtner, Wolfgang, "Time, Eternity, and Trinity," in *Neue Zeitschrift für Systematische Theologie und Religionsphilosophie*, 51:3 (2009), 268-287.
- Arnold, Dan, "The Sense Madhyamaka Makes as a Buddhist Position: Or, How a 'Performativist Account of the Language of Self' Makes Sense of 'No-Self'," in *Journal of Indian Philosophy*, 47:4 (2019), 697-726, <<https://doi.org/10.1007/s10781-019-09390-5>>.
- Augustine of Hippo, *Confessions, vol. II*, trans. by William Watts (London: William Heineman, Ltd., 1912).
- \_\_\_\_\_, *De Trinitate* (New York: New City Press, 1991).
- Bartley, Chris, "Pratitya-samutpada," in *Encyclopedia of Asian Philosophy*, ed. by Oliver Leaman (London: Routledge, 2001).
- Boccardi, Emiliano, "Turning the Tables on McTaggart," in *Philosophy*, 93, no. 3 (2018), 395-410, <<https://doi.org/10.1017/S0031819118000141>>.
- Burgess, John P., "Logic and Time," in *The Journal of Symbolic Logic*, 44:4 (December 1979), 566-582, <<https://doi.org/10.2307/2273296>>.
- Chashchina, Olga I. and Zurab K. Silagadze, "Expanding Space, Quasars and St. Augustine's Fireworks," in *Universe*, 1:3 (2015), 307-356, <<https://doi.org/10.3390/universe1030307>>.
- Corish, Denis, "McTaggart's Argument," in *Philosophy*, 80:311 (January 2005), 77-99, <<https://doi.org/10.1017/S0031819105000057>>.
- \_\_\_\_\_, "Time Reconsidered," in *Philosophy*, 81:315 (January 2006), 81-106 <<https://doi.org/10.1017/S0031819106000052>>.
- Craig, William L., "Theism and the Origin of the Universe," in *Erkenntnis*, 48:1 (January 1998), 49-59, <<https://doi.org/10.1023/A:1005360931186>>.
- Craig, William L. and Quentin Smith, *Theism, Atheism, and Big Bang Cosmology* (Oxford: Clarendon Press, 1993).
- Driessen, Alfred, "The Quest for Truth of Stephen Hawking," in *Scientia et Fides*, 9:1 (2021), 47-61, <<https://doi.org/10.12775/SetF.2021.002>>.
- Earman, John, "Thoroughly Modern McTaggart: Or, What McTaggart Would Have Said If He Had Read the General Theory of Relativity," in *Philosophers' Imprint*, 2:3 (2002), 1-28.
- Edelglass, William, "Review of *Emptiness Appraised: A Critical Study of Nāgārjuna's Philosophy*," in *Philosophy East and West*, 53:4 (2003), 602-605 <<https://doi.org/10.1353/pew.2003.0036>>.



- Farr, Matt, "On A- and B-Theoretic Elements of Branching Spacetimes," in *Synthese*, 188:1 (2012), 85-116 <<https://doi.org/10.1007/s11229-011-0046-y>>.
- Feser, Edward, *Aristotle's Revenge: The Metaphysical Foundations of Physical and Biological Science* (Neunkirchen-Seelscheid: Editiones Scholasticae, 2019).
- Fullerton, George Stuart, "The Doctrine of Space and Time: IV. Of Time," in *The Philosophical Review*, 10:5 (September 1901), 488-504.
- Gale, Richard M., "Has the Present Any Duration?" in *Nous*, 5:1 (1971), 39-47, <<https://doi.org/10.2307/2214450>>.
- Gardiner, David L., "Kūkai: Esoteric and Exoteric Teaching," in *Japanese Philosophy: A Sourcebook*, ed. by James W. Heisig, Thomas P. Kasulis, and John C. Maraldo (Honolulu: University of Hawai'i Press, 2011).
- Grygiel, Wojciech P., "Multiverse, M-theory, and God the Creator," in *International Philosophical Quarterly*, 53:1 (March 2013), 23-25, <<https://doi.org/10.5840/ipq20135313>>.
- Hannan, Sean, "A New Realist Philosophy of Time and Its Augustinian or Post-Phenomenological Critique" (unpublished manuscript, February 2015), <<https://voices.uchicago.edu/philofreligions/2015/02/11/259/>>.
- Hara Yutaka, "Ryūju ni okeru jikanron no ichi kōsatsu," [An inquiry into Nāgārjuna's theory of time] in *Indogaku Bukkyōgaku Kenkyū*, [Indology and Buddhology Research] 23:1 (1974), <[https://doi.org/10.4259/ibk.69.2\\_895](https://doi.org/10.4259/ibk.69.2_895)>.
- Hawking, Stephen, *A Brief History of Time: Updated and Expanded Tenth Anniversary Edition* (New York: Bantam Books, 1996).
- Hawking, Stephen and Leonard Mlodinow, *The Grand Design* (New York, NY: Bantam, 2010).
- Hedrick, Landon, "Heartbreak at Hilbert's Hotel," in *Religious Studies*, 50:1 (2014), 27-46, <<https://doi.org/10.1017/S0034412513000140>>.
- Highfield, Ron, "The Function of Divine Self-Limitation in Open Theism: Great Wall or Picket Fence?" in *Journal of the Evangelical Theological Society*, 45:2 (2002), 279-299.
- Hutt, Curtis M., "Husserl: Perception and the Ideality of Time," in *Philosophy Today*, 43:4 (Winter 1999), 370-385.
- Ishitobi Michiko, *Budda to Ryūju no ronrigaku* [Logic of Buddha and Nāgārjuna] (Tokyo: Samgha, 2007).
- Jiang, Tao, "Incommensurability of Two Conceptions of Reality Dependent Origination and Emptiness in Nāgārjuna's MMK," in *Philosophy East and West*, 64:1 (2014), 25-44, <<https://doi.org/10.1353/pew.2014.0004>>.

- Kusters, Wouter, "Philosophy and Madness: Radical Turns in the Natural Attitude to Life," in *Philosophy, Psychiatry, and Psychology*, 23:2 (June 2016), 129-146, <<https://doi.org/10.1353/ppp.2016.0012>>.
- Li, Man and Bart Dessein, "Aurelius Augustinus and Seng Zhao on 'Time': An Interpretation of the *Confessions* and the *Zhao Lun*," in *Philosophy East and West*, 65:1 (2015), 157-177, <<https://doi.org/10.1353/pew.2015.0019>>.
- Manning, Liliann, Daniel Cassel, and Jean-Christophe Cassel, "St. Augustine's Reflections on Memory and Time and the Current Concept of Subjective Time in Mental Time Travel," in *Behavioral Sciences*, 3:2 (2013), 232-243, <<https://doi.org/10.3390/bs3020232>>.
- Marrone, Steven P., "Review of *Divine Illumination: The History and Future of Augustine's Theory of Knowledge*," in *Journal of the History of Philosophy*, 50:2 (2012), 101-102, <[https://doi.org/10.1111/j.1748-0922.2012.01603\\_6.x](https://doi.org/10.1111/j.1748-0922.2012.01603_6.x)>.
- McDaniel, Kris, "John M. E. McTaggart," in *Stanford Encyclopedia of Philosophy* (2020), <<https://plato.stanford.edu/entries/mctaggart/>>.
- McMullin, Ernan, "Cosmic Purpose and the Contingency of Human Evolution," in *Theology Today*, 55:3 (1998), 289-414, <<https://doi.org/10.1177/004057369805500307>>.
- McTaggart, J. Ellis, "The Unreality of Time," in *Mind*, 17:68 (1908), 451-474.
- Miller, Kristie, "A Taxonomy of Views about Time in Buddhist and Western Philosophy," in *Philosophy East and West*, 67:3 (2017), 763-782, <<https://doi.org/10.1353/pew.2017.0062>>.
- Mink, Louis O., "Time, McTaggart and Pickwickian Language," in *The Philosophical Quarterly*, 10:40 (July 1960), 252-263, <<https://doi.org/10.2307/2216939>>.
- Muller, Richard A., *Now: The Physics of Time* (New York: W.W. Norton & Company, 2016).
- Nathan, N. M. L., "McTaggart's Immaterialism," in *The Philosophical Quarterly*, 41:165 (October 1991), 442-456, <<https://doi.org/10.2307/2220079>>.
- Nefdt, Ryan, "On the Plurality of Times: Disunified Time and the A-Series," in *South African Journal of Philosophy*, 32:3 (2013), 249-260, <<https://doi.org/10.1080/02580136.2013.837654>>.
- Nordlund, Thomas, "The Physics of Augustine: The Matter of Time, Change and an Unchanging God," in *Religions*, 6:1 (2015), 221-244, <<https://doi.org/10.3390/rel6010221>>.
- Oakeley, Hilda D., "Time and the Self in McTaggart's System," in *Mind*, 39:154 (1930), 175-193.
- Oaklander, L. Nathan, "The 'Timelessness' of Time," in *Philosophy and Phenomenological Research*, 38:2 (1977), 228-233.

- Ogawa, Hideyo, "Two Truths Theory: What Is Vyavahāra? Language as a Pointer to the Truth," in *Journal of Indian Philosophy*, 47:4 (2019), 613-633, <<https://doi.org/10.1007/s10781-017-9314-6>>.
- Patterson, Robert Leet, "McTaggart's Contribution to the Philosophy of Religion," in *Philosophy*, 6:23 (July 1931), 323-335, <<https://doi.org/10.1017/S0031819100032204>>.
- Piccioni, Daniele and Patrizia Riganti, "Time, Atemporality and the Trinitarian Nature of God in Plato's Philosophical Heritage," in *Agathos*, 9:1 (2018), 7-33.
- Prosser, Simon, "A New Problem for the A-Theory of Time," in *The Philosophical Quarterly*, 50:201 (October 2000), 494-498.
- Rau, Catherine, "Theories of Time in Ancient Philosophy," in *The Philosophical Review*, 62:4 (October 1953), <<https://doi.org/10.2307/2182458>>.
- Reyburn, Hugh A., "Idealism and the Reality of Time," in *Mind*, 22:88 (1913), <<https://doi.org/10.1093/MIND/XXII.10.493>>.
- Reichmann, James B., S. J., *Philosophy of the Human Person* (Chicago: Loyola Press, 1985).
- Reiser, Oliver L., "The Problem of Time in Science and Philosophy," in *The Philosophical Review*, 35:3 (May 1926).
- Ricoeur, Paul, *Time and Narrative*, vol. 1, trans. by Kathleen McLaughlin and David Pellauer (Chicago: University of Chicago Press, 1984).
- \_\_\_\_\_, *Time and Narrative*, vol. 3, trans. by Kathleen Blamey and David Pellauer (Chicago: University of Chicago Press, 1988).
- Russell, Bertrand, *Principles of Mathematics* (Cambridge, 1903; Oxon, UK: Routledge, 2010). References to the 2010 edition.
- Saigusa Mitsuyoshi, *Saigusa Mitsuyoshi chosakushū dai go kan Ryūju* [Collected Works of Mitsuyoshi Saigusha, vol. 5, Nāgārjuna] (Kyoto: Hozokan, 2004).
- Sánchez-Cañizares, Javier, "Whose Design? Physical, Philosophical and Theological Questions Regarding Hawking and Mlodinow's Grand Design," in *Scientia et Fides*, 2:1 (2014).
- Scarborough, Milton, "In the Beginning: Hebrew God and Zen Nothingness," in *Buddhist-Christian Studies*, 20 (2000).
- Schlesinger, Eugene R., "Trinity, Incarnation and Time: A Restatement of the Doctrine of God in Conversation with Robert Jenson," in *Scottish Journal of Theology*, 69:2 (2016).
- Sosa, Ernest, "The Status of Becoming: What Is Happening Now?" in *The Journal of Philosophy*, 76:1 (January 1979).
- Stevens, Graham, "Russell's Repsychologising of the Proposition," in *Synthese*, 151 (2006).
- Tallant, Jonathan, "What Is It to 'B' a Relation?" in *Synthese*, 162:1 (2008).

#### 40 MCTAGGART'S A AND B SERIES

Thomas, Emily, "V—Time and Subtle Pictures in the History of Philosophy,"  
in *Proceedings of the Aristotelian Society*, 120:2 (2020).

Westerhoff, Jan Christoph, "Nāgārjuna," in *Stanford Encyclopedia of Philosophy*  
(2022), <<https://plato.stanford.edu/entries/nagarjuna/>>.

Yotsuya Kōdō, *Tsonkapa no chūgan shisō* (Tokyo: Daizō Shuppan, 2006).